

CAPT. ~~REDACTED~~ ~~REDACTED~~ Phil. R.
610-H-FLIGHT TEST SEC.

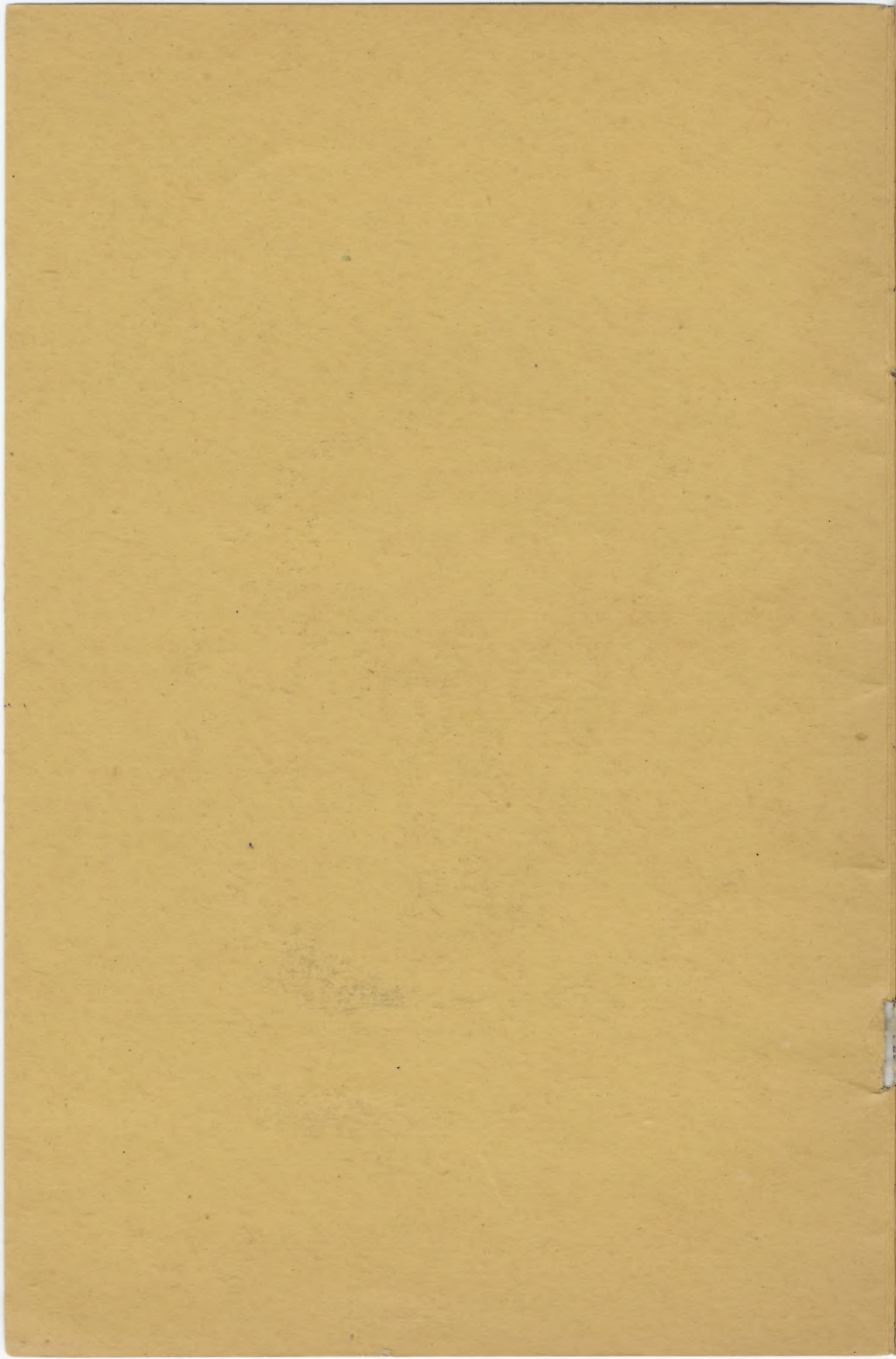
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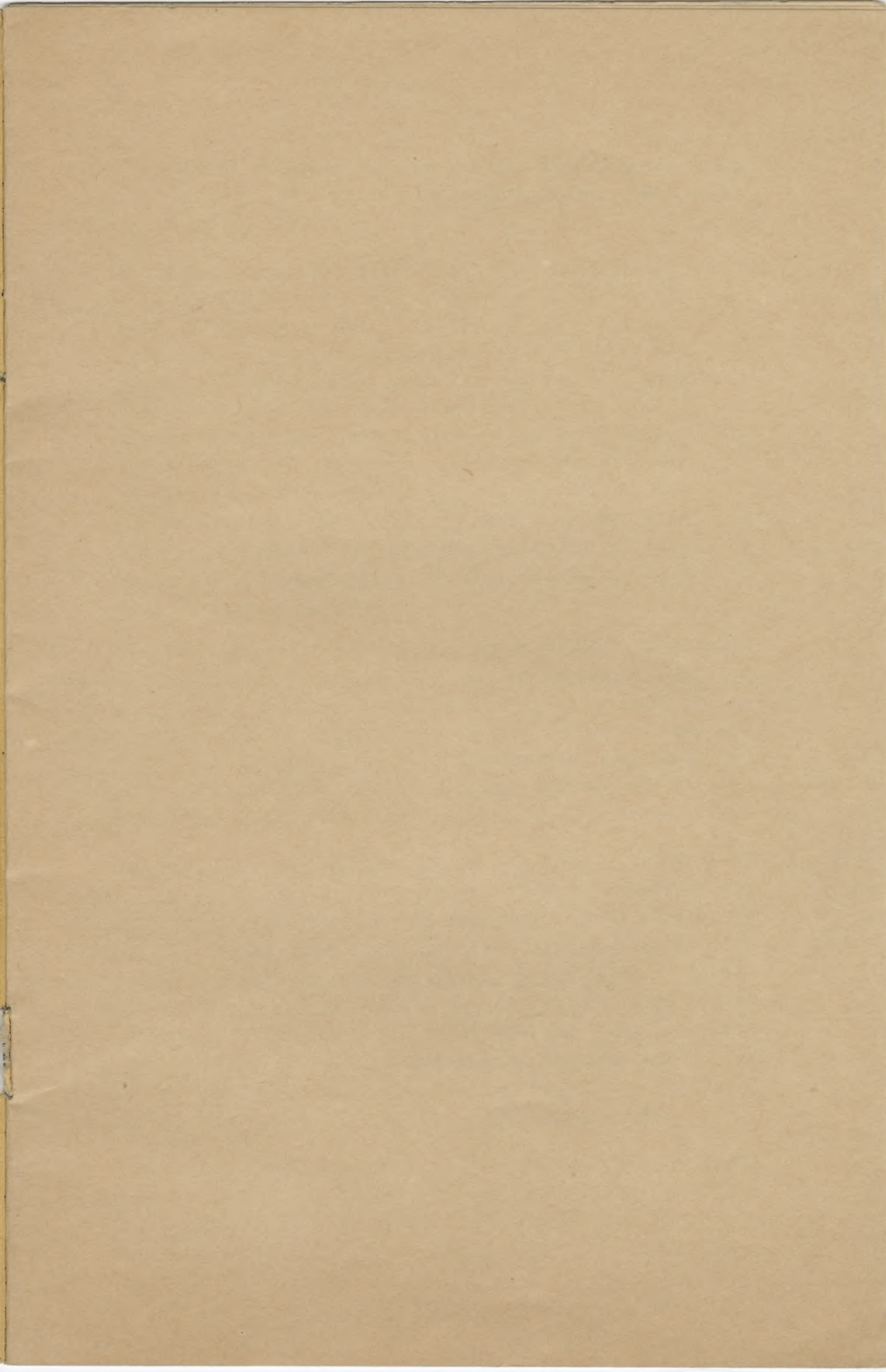
ARMY AIR FORCES PROVING GROUND COMMAND

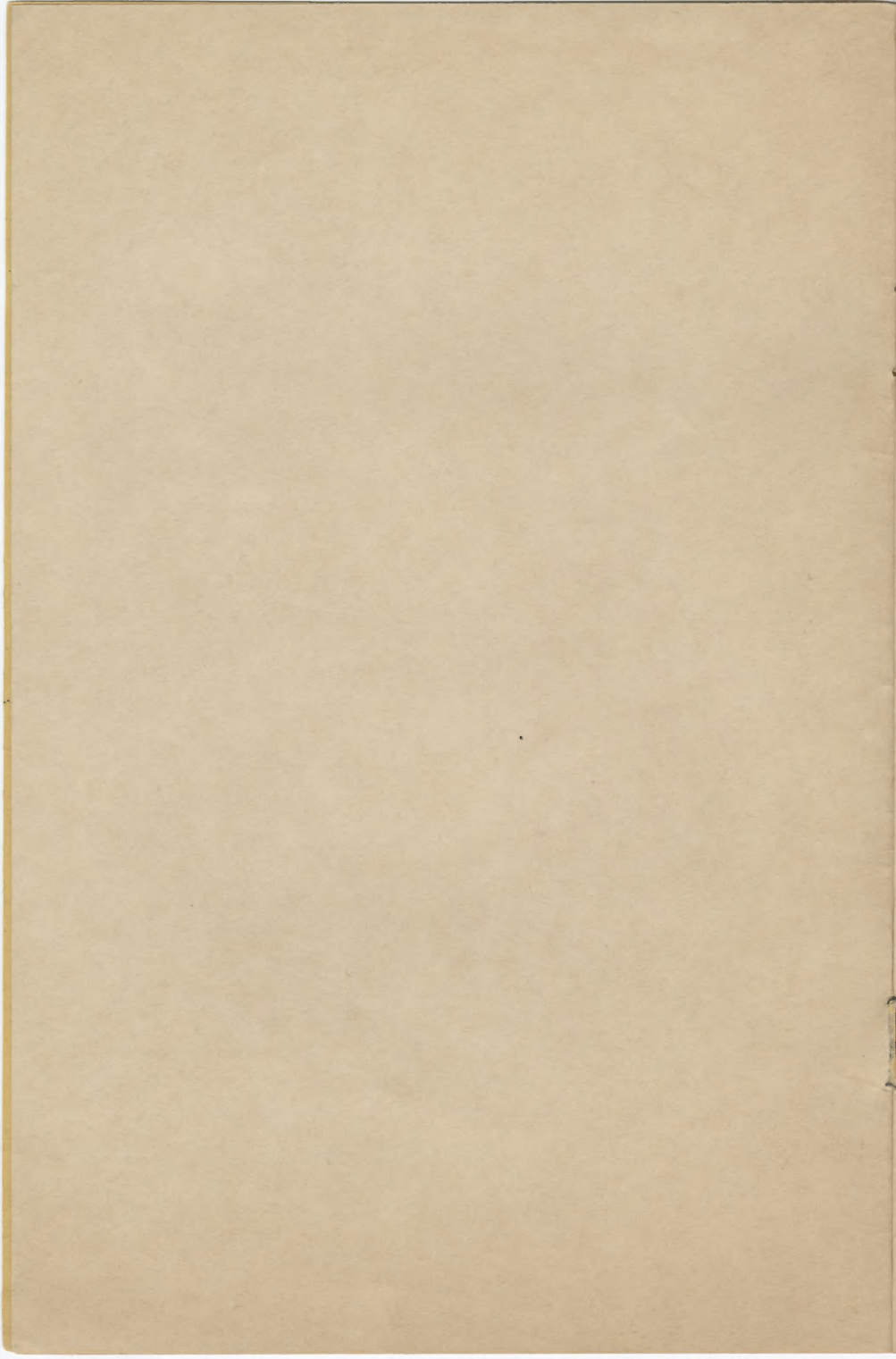


EGLIN FIELD,
FLORIDA

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The mission assigned to the Proving Ground Command has been forcefully stated by its Commanding General, Brigadier General Grandison Gardner:

"The purpose and objectives behind the organization of the Proving Ground are speeding victory for the Army Air Forces in every theater of war. The very existence of the Proving Ground shows the Army Air Forces determination to equip its combat units with fighting tools that have been tested and proved worthy. Here the performance characteristics and capabilities of the combat tools of the Army Air Forces----our aircraft, accessories, supplies, and equipment----are subjected to gruelling test with the single purpose of proving themselves for tactical uses, and of demonstrating how they may be employed with maximum effectiveness."

For the accomplishment of this vital mission there have been constructed and assembled on the AAF Proving Ground Reservation a vast array of facilities. Nearly a dozen flying fields, more than 50 bombing and gunnery ranges on land and water, a score of major hangars, laboratories, and technical buildings, and hundreds of other buildings (almost 900 in all) cover the 600 square miles of the Proving Ground Reservation.

Proving and testing activities are also carried on by Proving Ground personnel and methods in other localities and regions. A Cold Weather Testing Detachment is maintained at Ladd Field, Alaska, and supplementary cold weather testing activities are carried on at Watertown, South Dakota. Assistance is rendered to other testing agencies of the armed forces at Edgewood and Aberdeen, Maryland; Madison, Indiana; Hope, Arkansas; Stuttgart, Arkansas; Huntsville, Alabama; and Tooele, Utah. Aircraft from the Proving Ground frequently range the entire continental United States on testing missions.

Specially trained cadres and technical units are sent overseas, to Europe, the Mediterranean, the Southwest Pacific, and to Asia, to apply test results to the immediacy of combat.

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Flying officers who have literally grown up with the Air Corps and young men fresh from battle experience are assigned to the command to give practical application to the ideas worked out here. Some of the most distinguished scientists in America, technical experts, and specially trained engineers are sent to the command in either a military or a civilian capacity to provide the highest degree of professional skills for the testing and evaluating of the weapons of the Air Forces.

Simple tools and familiar equipment as well as the latest pursuit ships and the heaviest of bombers are proved worthy or unworthy for combat here. A number of the most significant and effective combat techniques of the war, such as minimum altitude bombing, fighter incendiary bombing, and shallow dive bombing, were developed by the Proving Ground Command. Minimum altitude bombing, for instance, assisted the "speeding of victory" in such operations as the Battle of the Bismarck Sea, and the first Ploesti Raid. The Doolittle Raid on Tokyo was rehearsed at the Proving Ground. Development of techniques to use special equipment included the application of radar-range finding, air-borne rockets and air-borne 75mm cannon, as well as the routine determination of combat worthiness and of the best methods of operation of all standard combat aircraft.

Years before the outbreak of the present war forward looking officers of the Air Corps had urged the establishment of a proving ground and had recommended that the government acquire the Choctawhatchee National Forest and adjacent land and water areas as an ideal location for proving and testing activities. Limited flying activity began here as early as 1933. In 1937 a local flying field was named after Colonel Frederick I. Eglin who had lost his life in a line of duty crash near Anniston, Alabama. As the field slowly enlarged some gunnery practice was carried, National Guard units received summer training, and with the outbreak of war in Europe in 1939 large-scale pursuit gunnery training was inaugurated. By now, many thousands of pursuit pilots have received gunnery training on the satellite fields of the command. With government acquisition of the Choctawhatchee National Forest in 1940, plans for a proving ground were rapidly developed.

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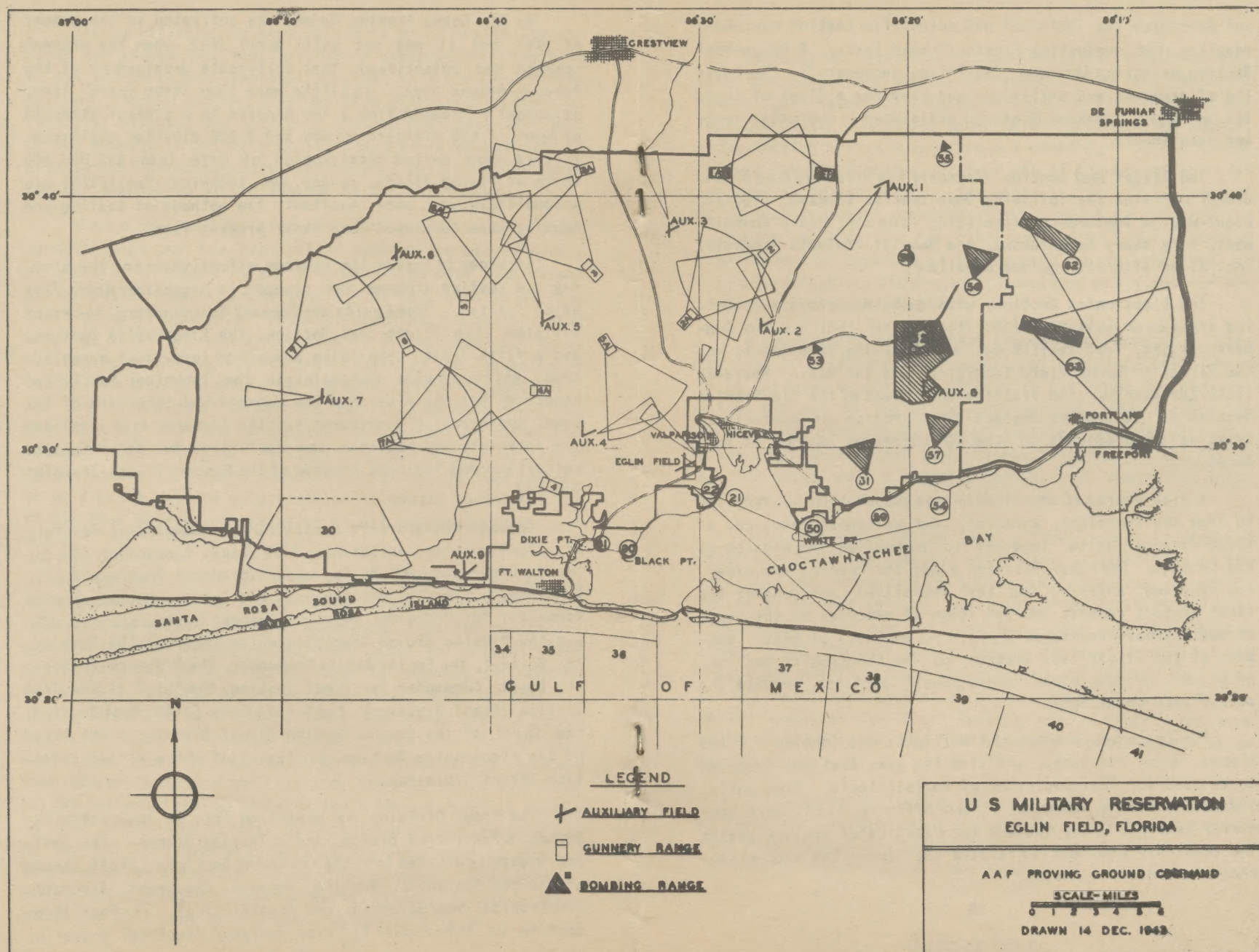
An Air Corps Proving Ground was activated in the summer of 1941, but it was not until April 1942, when the present command was established, that full-scale development of the Proving Ground began. In little more than three years' time, personnel increased from a few hundred to a present strength of nearly 8,000 officers and men and 2,000 civilian employees. In this same period construction of more than \$22,000,000 worth of flying fields, ranges and technical facilities was accomplished, and, more important, the methods of testing and proving were developed into their present form.

In order to insure the maximum effectiveness of the proving and testing program the command is organized into five major "units". These units are Command Headquarters, the Proof Division, the Flight Test Section, the Electronics Section, and a fifth "unit" comprising a score of individual organizations which provide and maintain the technical facilities necessary for the mission of the command and take care of the usual housekeeping requirements. The Command also provides the personnel and operates the facilities for the extensive pursuit gunnery training program of the Eastern Flying Training Command.

Command Headquarters consists of the Commanding General, his staff and their assistants, five Deputy Commanders (Senior Deputy Commander; Deputy Commander for Proof Testing; Deputy Commander for Supply, Maintenance, and Transportation; Deputy Commander for Ordnance; Deputy Commander for Administration), and the Proving Ground Committee which includes the Commanding General, the Senior Deputy Commander, the Ordnance Advisor, the Deputy Commander for Proof Testing, the Chief of the Test Section (Proof Division), the Chief of the Flight Test Section, the Chief of the Ground Section (Proof Division), the Chief of the Electronics Section, and the Chief of the Climatic Section (Proof Division).

The Proof Division is organized into an Administrative Branch, a Facilities Branch, and a Testing Branch. The Testing Branch is divided into the following Sections: Staff (heads of all the Sections), Bombing, Weapons, Equipment, Aircraft, Electronics, Photographic, and Physiological. The Facilities Section of the Proof Division designs, procures, installs,

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and maintains the technical and scientific testing equipment required for conducting Proving Ground tests. A Range-Boat Section maintains the range facilities necessary for the testing of armament and explosives and provides a fleet of boats for emergency rescue work and for assistance in overwater tests and experiments.

The Flight Test Section (formerly the First Proving Ground Group) contains the following Departments: Command, Fighter, Light-Medium Bombardment (including Torpedo), Heavy Bombardment, Very Heavy Bombardment, and Special Projects (rockets, controlled aircraft, guided missiles).

The Electronics Section, with its headquarters and testing areas on an outlying field (Field Nine) includes the Command, Flying, Test Facilities, and Training Departments and the Aircraft Radio Field Laboratory and the Radio Research Field Laboratory. The Training Department of the Electronics Section is at present engaged in a program of operational training of graduates of the RCM observers course at Boca Raton.

A high degree of coordination and cooperation is required to draw the technical, material, and personnel resources of these various "units" together to accomplish the mission of the Command. The Proof Division plans the testing and proving programs, analyzes the test operations, and renders the final project reports on the items of material or the types of operational techniques that are the subjects of test. Members of the Flight Test Section, of the Electronics Section, or of one of the other "operational" sections execute the actual test operations.

For instance, members of the Flight Test Section fly the planes, drop the bombs, and fire the guns that are required to be used for the completion of certain tests. Frequently, Ordnance officers, Chemical Warfare Officers, or officers specially assigned to the Command for a particular project assist the Proof Division and its related sections in the accomplishment of a testing mission.

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Requests for test projects come from a variety of sources: from the Commanding General of the AAF, from the AAF Board (which coordinates the programs of the Proving Ground and the Tactical Center at Orlando, and of which the Commanding General of the Proving Ground is ex officio a member), from the Materiel and Service Commands, or from one of the key officers of the Proving Ground itself. Accompanying the initial request is an outline which describes the equipment or technique to be tested and itemizes the findings desired. After initial examination by a member of the Proving Ground Committee, or his representative, the project is assigned to the appropriate section of the Proof Division.

A rough draft of the test program is formulated, then examined in conference and amended or modified, after which it is assigned to a Project Officer in the Proof Division and a Test Officer in the Flight Test Section, the Electronics Section, or some other related section. The two officers, often assisted by other technicians, cooperate in all phases of the tests, keep a progress report, and record the test findings.

Upon completion of the test, a final report is prepared which discloses the quality, efficiency, or usefulness of the test item and recommends its acceptance, rejection, or modification by the Air Forces. In all instances positive and concrete suggestions are included to improve even the accepted items. This "Project Report" is then reviewed by section and department chiefs in the Proof Division and related sections, by the Chief Testing Officer of the Proof Division, by the Deputy Commander for Proof Testing, and is finally approved by the Commanding General and submitted to the agency which requested it.

By this process the Air Forces are assured that no items of equipment, whether a tool kit or a B-29, are accepted until they have reached the last and most nearly perfect stage of refinement, effectiveness, and durability.

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In three years' time the Proving Ground Command has conducted more than 1300 test projects, a large portion of them requiring many months for completion. More than 200 operational aircraft are at present assigned to the Command for test projects, and the test program is continually accelerating. New facilities are constantly being devised and constructed. A low-pressure firing chamber of a unique design has recently been completed, and a climatic hangar capable of holding two B-29s is in the process of construction. Engineers are now engaged in perfecting a Master Plan for the future development of the Proving Ground, a plan which involves the expenditure of additional millions of dollars.

Until the war is won the technical, material, and personnel resources of the Command are geared to hastening the victory by providing the Air Forces with proved aircraft, equipment, and techniques. After the war is over, the work of the Command will continue to provide the Army Air Forces and the American nation with the assurance of worthiness in the weapons, material, and equipment necessary for the maintenance of power and of peace in the coming Air Age.

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Size of Proving Ground Reservation - approximately 450,000 acres (exclusive of water areas)

Size of Eglin Field proper - 1200 acres

Number of flying fields - 10

Number of ranges (land and water) - 53

Number of miles of roads in Reservation - 350

Total number of buildings on Reservation - 882 (others under construction)

Total value of lands, flying fields, ranges - \$23,000,000 (does not include technical equipment or aircraft and materials assigned)

Operational aircraft assigned for testing varies from 100 to 150

Special technical facilities: Bombing and gunnery ranges (various types of special facilities), Armament laboratories, Equipment laboratory, Physiological laboratory, Mechanical laboratory, Torpedo laboratory and machine shop, Photographic laboratory, Aircraft radio field laboratory, Radio research laboratory, Electronics and radar test laboratory, Climatic hangar (under construction), Stratosphere-low pressure firing chamber, Computing and analytical equipment, such as, ballistic cameras, sonic recorders, recording theodolites, grid recorders and cameras, chronographs, etc.

Number of tests active since organization of Proving Ground - 1300

8 Detachments in other localities: Maryland, Indiana, Alabama, Arkansas, South Dakota, Utah, Alaska

Single-engine Pursuit Gunnery School: operates five fields; trained 20,000 pilots

Historical background:

First flying activity in this region (gunnery) 1933

Eglin Field named in 1937 after Col. F. I. Eglin, pilot killed in accident

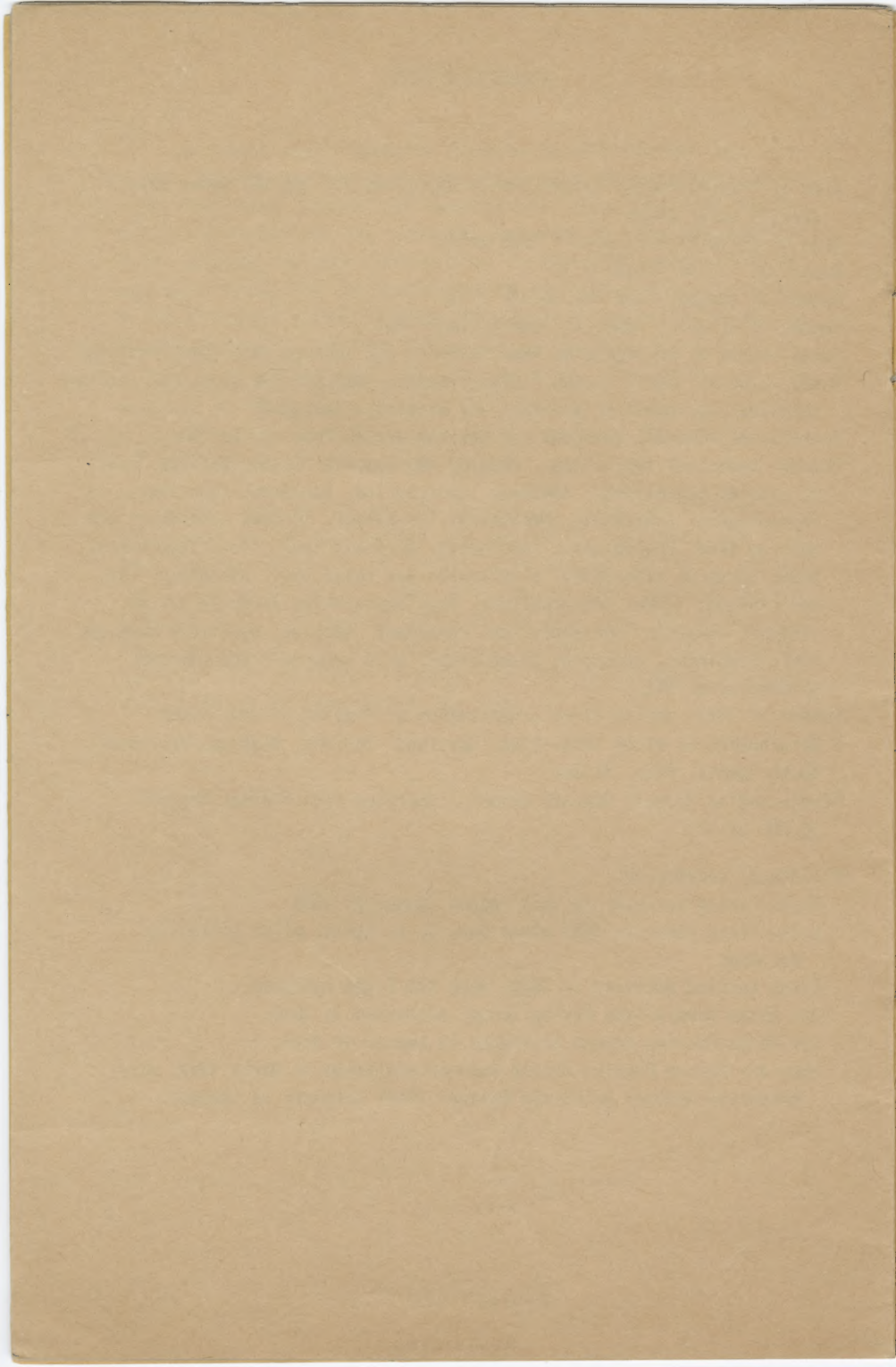
First testing activity in 1939, when two P-37s assigned

Air Corps Specialized Flying School activated in 1940

Air Corps Proving Ground activated in summer of 1941

Army Air Forces Proving Ground Command activated in April 1942, with Brigadier General Grandison Gardner (then Colonel) in Command.

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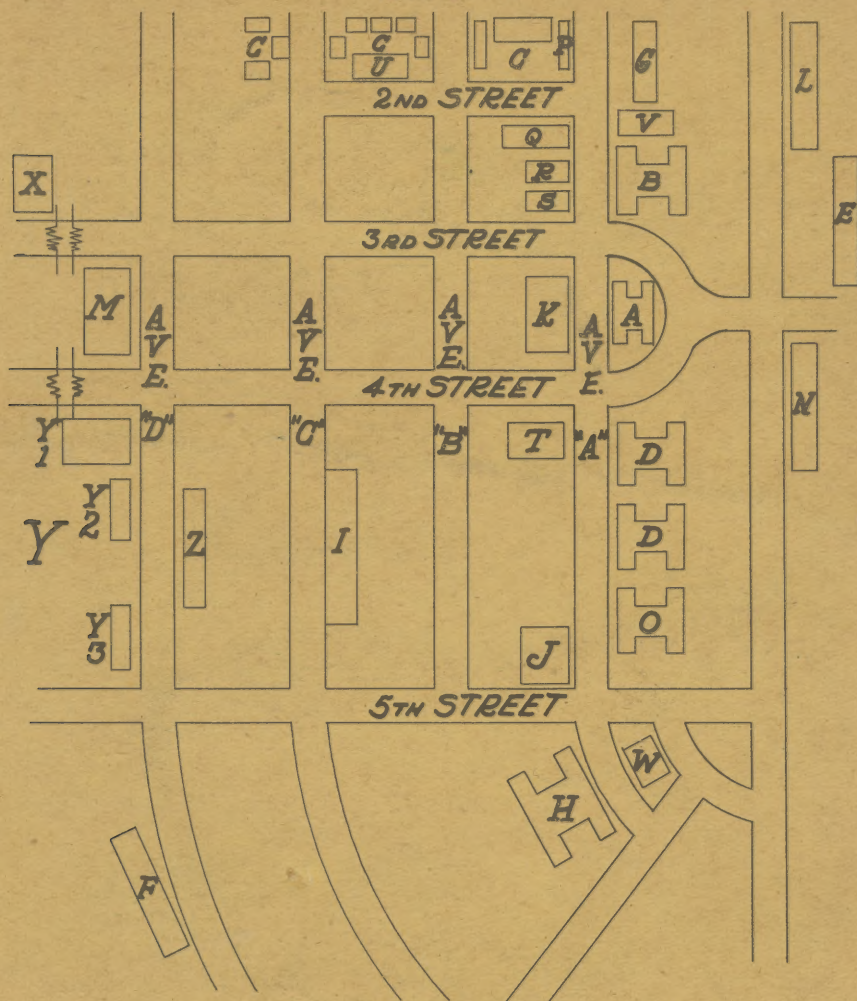
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HEADQUARTERS SECTION	ADMINISTRATIVE SECTION	TRANSPORTATION SECTION	SECURITY SECTION	SUPPLY & MAINTENANCE SECTION	MEDICAL SECTION	AVIATION SECTION	FLIGHT TEST SECTION	ELECTRONICS SECTION	GROUND SUPPORT SECTION	ORANGE SECTION	RANGE BATT SECTION	AMMUNITION SECTION	CLIMATE SECTION	WAC DETACH
						7TH BATT				ORANGE CO	ORANGE CO			

A	B	C	D	E	F
ADMINISTRATIVE SECTION	GUNNERY SECTION	MAINTENANCE SECTION	GUNNERY SECTION	GUNNERY SECTION	GUNNERY SECTION
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6/31H	6/4H	6/8H	6/6H	6/7H	6/8H	6/9H
ABERDEEN MD.	EDGEWOOD MD.	MADISON IND.	HOPE ARK.	DUGWAY UTAH	HUNTSVILLE ALA.	WATEETOWN S. D.

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BUILDINGS

- | | | |
|-------------------------------------|---------------------------------------|-----------------------------------|
| A -Command Headquarters | K -Western Union | U -Cafeteria |
| B -Military Personnel Sec. | L -Flight Test Sec. Operations | V -Chapel |
| C -B.O.Q. Buildings | M -Finance | W -Theatre |
| D -Proof Division | N -Photographic Sec. | X -Library |
| E -Operations | O -Army Exchange | Y -Hospital Area |
| F -Provost Marshal | P -Y.O.Q. 483 | Y1 -Nurses' Quarters |
| G -Officers Club | Q -Y.O.Q. 485 | Y2 -WAC Officers' Quarters |
| H -Flight Test Section Hq. | R -Y.O.Q. 487 | Y3 -Medic V.O.B.O.Q. |
| I -Administrative Sec. 610th | S -Y.O.Q. 489 | Z -Rail Transportation |
| J -Post Office | T -Y.O.Q. 333 | |

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